Developing a dialogic design review process as a tool for strengthening multi-directional networks of learning within the design studio

Abstract

Architecture practice is a subjective undertaking whereby the practitioner negotiates a trajectory through a landscape of multiple competing and often conflicting demands. The design studio, as a representation of real-world practice, should therefore prepare the student to operate within this complex field. This article describes and reflects upon my cultivation of a dialogic design review process, which aims to highlight the contested nature of architectural practice by cultivating multi-directional, collective, reflexive and critical conversations within the student cohort and the design studio. The dialogic design review process was created through continual architectural pedagogical practice over the past three years. Multiple methods and approaches have been used to reflect on and understand how this new teaching format performs. Findings from this reflection process are presented and conclusions are drawn about how it contributes to the overlapping and dynamic networks of learning within the design studio.

Keywords: Architectural pedagogy, reflexive practice, architectural design studio, SenseCam

Introduction

Architecture practice is messy and demanding. Clients, planners, users, the public at large and an ever-increasing number of consultants all vie for the architect's attention. The multiple concerns of these many stakeholders must be considered within a constantly morphing framework of regulatory, contractual and budgetary constraints. To complicate the situation even further, all architectural projects are prototypical, being both site-specific and context-dependant. This complexity makes modernist conceptions of the architect – as detached expert and/or solitary genius – seem reductive and naïve. Contemporary architects do not operate alone, striving to realise their unique vision of abstracted beauty. Rather, architecture practice involves multiple players, where progress is made through negotiating and renegotiating ways forward in collaboration with all involved.

This work process is heavily reliant on situated knowledge or knowledge that is produced through engagement with these multiple parameters, players and agendas. However, there may be benefits resulting from this same process that facilitate an architect's engagement with messy, "real world" issues or contingencies. Till[1] argues that such "contingencies" have the potential to enrich both the design process and the designed outcome. By the act of engaging with those contingencies, rather than simply operating in Cartesian abstracted space, more creative outcomes are likely to emerge. When viewed thus, the task of the architect is to critically engage with the world as it is, to view these contingencies opportunistically and to demonstrate a willingness to incorporate new ideas emerging from creative conversations had with the specifics of each project. At the same time, the architect should establish a general design intention, or a "loose-fit" position vis-à-vis the project, to use as a navigational device with which to guide the overall design process. This is not a simple undertaking and it has been posited that architectural education should better prepare the student to operate within such a complex and demanding context[2]. This task forms the core of my investigation in this article.

The design studio is an integral component of architectural education. Before the establishment of the first architecture course in 1819, at the *École des Beaux Art* in Paris, apprentices learned the craft "on the job" from expert architects. These apprentices acquired their skills and knowledge through observation, understanding and emulation on real architectural projects led by a 'master' architect. The academy reproduced this pedagogical model with the creation of the design studio. It

was conceived of as a representation of architectural practice, where students learn by either working on theoretical projects or on projects that simulate "real-world" situations, safe from the risks associated with actual, "real-world" problems. In the design studio, the master architect was replaced by the design tutor, or 'studio master,' who facilitated this learning process[3]. Schön[4,5] presents this educational model as an exemplar of how to prepare the student to be a reflexive practitioner – a person who acts in conditions of uncertainty and who acquires tacit knowledge through reflection on his or her experiences. Schön also argues that the design tutor does not teach *per se* but rather "coaches" the student by demonstrating, by advising and by questioning. This all happens within the context of the one-on-one tutorial. In this way, the student is eased into the design tutor's way of designing. In addition, it is through these "coaching" sessions that the design tutor reveals how practitioners operate in conditions of uncertainty, using a combination of "knowing-in-action," "reflection-in-action," and "reflection-on-action" methodologies. As a result, the student becomes more aware of his or her own working habits and, therefore, develops his or her own tacit knowledge.

Although Schön correctly notes that students need to construct their own learning process in order to have a deep and transformational learning experience, Webster[6] contends that Schön's theory of how learning happens in the design studio is incomplete. Learning in the design studio is not a mono-directional process of knowledge transfer from an experienced design tutor, adept at reflexive practice in architecture, to a less experienced and largely passive student. Rather, it is a complex, multi-dimensional exchange that occurs both through formal processes – design reviews, seminars, small group tutorials and one-on-one tutorials – and informal processes – peer discussion, social events and day-to-day activities – all happening within the communal environment of the design studio. Others have noted how peer critiquing is also an integral part of this learning process[7,8]. Given the above factors, Mewburn's placement of the design studio within actor-network theory is helpful. In this conception, actors include both human elements, such as the student and the design tutors; and non-human elements, such as the drawings, models, the building, etc. These elements are all active participants or actors within a series of multiple, overlapping networks. Together, combinations of actor-networks have numerous consequences or effects including, but not limited to: assessment criteria, learning outcomes, design reviews, projects briefs, the university itself etc. In summation, this postmodern view positions the design studio as "an elaborate and flexible apparatus for enrolling students into the architecture profession (a relatively stabilized actor-network) from which various kinds of learning can emerge (or not)". [9]

Within, the complex learning arena of the design studio, the design review has endured as a staple element of architectural education since its inception in the early days of the academy. It was initially conceived of to instil the academic assessment process with a certain level of fairness, a fairness that was understood to result from the jury-like nature of the review, whereby the merits of a student's work are ascertained collectively by a panel of experts rather than by the "studio master" alone. The format of the design review – or the "crit" as it is commonly referred to – is similar the world over. The student pins up their work on a wall. Rows of seats are arranged, fanning out from the work. The panel of reviewers sit in the front row and the remaining student cohort sits behind the panel. The student whose work is under review gives a verbal presentation and then the panel discusses it. This review format is valued by pedagogical staff as a more objective method of assessment, as a tool for the stimulation of collective dialogue and as a special occasion to celebrate the work under review. However, from the point of view of students, it is often perceived negatively[10] and has been described as a "tutor-centred, pseudo-mystical ritual that elicits feelings of fear and failure"[3]. Given that the practice has evolved from the master-apprentice model, the design

review model carries embedded power asymmetries, such as when the panel discusses what is "right" and "wrong" or "successful" and "failed" about the work under review[11].

In a typical design review, the spatial arrangement of the session reflects the above critique, whereby the vulnerable student stands in front of the jury and the remaining student cohort. As such, Anthony[12] has described the design review as a "type of theatre," where a practitioner criticises the student without deep consideration of his or her pedagogical responsibilities, viewing the occasion more as a stage on which to parade his or her own talents and repertoire.

This view resonates with empirical research completed by Webster[13] which finds that students perceive two main types of architectural pedagogue. The first type is the "hegemonic overlord," who promotes his or her own personal design process and demands conformity to his or her epistemological and ontological position. In practice, at the one-on-one tutorial, this pedagogue type tends to draw projects for students to copy. The second is "the entertainer," who propagates architectural culture through referencing his or her own experiences but who avoids engaging in meaningful and student-centred design dialogue. Therefore, this pedagogue type has limited capacity as a facilitator of learning. The ideal design tutor, according to Webster's findings, can be characterised as the "liminal servant," who is enthusiastic about the students' work; engages in an open and responsive manner; encourages two-way dialogue about the work; expresses empathy for the students' problems and is prepared to help resolve those issues; and co-manages the students' design processes. The crit is a comfortable space for the design tutor as "hegemonic overlord" and "entertainer" to operate in, but is less so for the 'liminal servant'.

The development of the dialogic design review

The traditional design review format, with its embedded hierarchies, could be altered so as to make a greater contribution to a more positive, open and discursive studio culture. Over the past three years, in response to the aforementioned critiques, I have evolved this process, developing an alternative approach which I call "the dialogic design review." The development and cultivation of this approach was undertaken through my own pedagogical practice at Queen's University Belfast and in collaboration with the stage one staff and students there.

The dialogic design review aims to encourage students to participate in the design conversation; to formulate and express their opinions; to promote multiple ways of knowing; and to highlight that architecture is a contested field of operation. On a broader level, it aims to help strengthen the social infrastructure in the design studio, cultivating it as a space where open, critical and collective architectural conversations can occur between peers, tutors and reviewers. It should be noted that the dialogic design review is only one element of the formal design studio program, which also includes small group tutorials, drawing skills demonstrations, one-on-one tutorials, lectures and exhibitions.

I developed the dialogic design review with reference to Mewburn's understanding of the design studio as a landscape of overlapping actor-networks and Webster's uncovering of the perceived and ideal character of the design tutor. With this in mind, I view my pedagogical practice as extending beyond that of "the coach," as described by Schön, that figure who merely steers one-on-one tutorials. Rather, my practice seeks to accomplish the greater tasks of setting the scene in which multi-directional learning can occur and strengthening the infrastructure that facilitates collective, creative conversations and skills sharing. The overarching goal is to empower students to take responsibility for their own learning and to inspire them to interact with and learn from one another in the absence of the design tutor.

The dialogic design review is a hybrid of an interim review and a small group tutorial. Undertaken on a weekly basis for a period of three hours, the process is facilitated by two tutors who are ideally diverse in terms of gender, race, age and/or religious profile. Approximately 15-20 students pin their work up on the perimeter walls of the design studio. From the student cohort, a timekeeper is nominated, as well as two or three "conversation catalysts," who are charged with providing initial reactions to the students' presentations. Students present their work and each individual presentation is followed by feedback, firstly from the nominated conversation catalysts and secondly from the design tutors. The students' feedback is the point of departure for the ensuing conversation and, as a tutor, I endeavour to weave all the students' comments into my own feedback, drawing other students into the conversation as I progress. My aim at this juncture is to seamlessly integrate all of the students' voices into the collective design conversation. This same feedback process is repeated for all the students who present work.

As design tutors, we affirm students' achievements in their work but we also aim to expose them to our viewpoints that differ from or disagree with their positions or proposals. We also welcome the instance of differences of opinion between design tutors and we seize on these moments, debating them openly in front of the students. Exposing such a divergence in views serves as a way to highlight, for the students, that architectural design is a contested field of operation. Throughout the process, the students also make interpretative drawings and texts through which to express what they consider to be pertinent parts of each other's projects.

The typical spatial arrangement associated with conventional design reviews is avoided. The teaching team does not sit at the front of the room, in judgement. Rather, positions are changed throughout the process, crouching down to see the work more closely, standing back to get a wider perspective of the presentation at hand, etc. The two tutors who facilitate this process do not sit or stand close to one another, but rather they position themselves at opposite ends of the cohort. This means that discussion happens around us and in the space between us, making it a more dynamic experience for all involved. As a tutor, I am conscious of adapting my expression, demeanour, stance and level of feedback, making it appropriate to each individual student. There is also a structural logic to the process – a pattern of activities, presentation and feedback times, structure, etc. – that must be followed. At the end of the dialogic design review session, students pin their interpretive drawings to the wall for review by the whole group. In this way, each of the students who presented work during the session gets to see multiple versions and interpretations of his/her own proposal.

The research methodology

The dialogic design review process is a kind of perpetual work-in-progress. As part of my own pedagogical practice and as a reflective practitioner myself, I regularly review the workings of the process and explore ways in which I can utilise it to integrate feedback that I have received on my work from students and other design tutors.

In addition to this general, continual self-awareness, I have also carried out a detailed examination of one specific dialogic design review session that I facilitated in collaboration with my teaching partner, on the 17th of November 2016. My research takes an interpretivist approach and, therefore, acknowledges that social worlds are interpreted worlds and that only partial accounts of any given social reality are feasible[14,15]. Therefore, my results are not generalisable or impartial, but rather give insights into the dialogic design review process, albeit from my own perspective. In response and as advised in the literature, I took a number of measures to check for and challenge my own possible biases and to triangulate my findings[16-18]. For instance, I wore a SenseCam for the duration of the dialogic design review session in question. This is a small, fisheye-lens camera that is worn on the

body. It systematically captures photographs every thirty seconds thereby yielding a continual visual record of the moment being studied. That visual record provides the possibility for an alternative, empirical reading of the captured event. The SenseCam has been utilised and has proven very effective in aiding autobiographical memory[19-21]. I use it as a tool to produce a visual diary of my fieldwork and from which I subsequently draft detailed field notes. My reflection on and analysis of this specific dialogic design review session also draws on written feedback elicited from the students and the aforementioned interpretative drawings, which they produced during to the session. In addition, when the students pinned up these drawing, for collective review after the session, I also elicited their verbal feedback. It is also worth noting that my tutoring partner and I also discussed and reviewed the teaching session and the associated outputs. Over a three-month period, through the close study of these multiple sources and recordings and through repeated reflection on their substance, I established a more comprehensive understanding of how the dialogic design review process operates. From this understanding, I reached conclusions about how the format contributes to the complex learning infrastructure of the design studio.

Reflecting on the dialogic design review process

Despite having enacted the dialogic design review process numerous times over the past three years, I still feel that students' voices can be integrated into the collective conversation in smoother and more meaningful ways. An excerpt from my field notes demonstrates the challenges I have encountered in this regard.

> *A student has just finished her presentation. I look to one of the nominated conversation catalysts for a reaction.*
>
> *'Jack, would you like to tell us what you think of this proposal?'*
>
> *He shuffles his feet and looks up at me with stunned, raised eyebrows. I don't know why he is surprised. I nominated him to give feedback five minutes earlier. But now he is silent and time seems to pass slowly as I wait for him to respond. Finally:*
>
> *'Eh, I like the drawing on the top right-hand corner'*
>
> *I nod as a way to reassure him that this is a valid observation, even though I feel that the identified drawing is irrelevant. I push further:*
>
> *'And what is it that you think is useful about the drawing given Laura's [the student's] design intent?'*
>
> *'Eh, I dunno, I think the colours are good.'*
>
> *Jack says no more. He looks back down at his feet. I myself have nothing meaningful to add. Laura's design has nothing to do with colour. I look over to my teaching partner, hoping he will rescue the situation. His face is blank. He stares back at me. I push further and ask:*
>
> *'Anything else?'*
>
> *'Eh, no,' Jack responds.*
>
> *I wonder if I should ask the next student what she thinks about the irrelevant colour in the irrelevant drawing and hope that she pulls the conversation back into a worthwhile direction. Valuable teaching time is passing by and I decide not to take that particular risk. Instead, I*

turn to the second conversation catalyst, nervous that her observations will also not open up a useful discussion.

> *'And, Danny, what do you think is most promising about this proposal?'*
>
> *'I think that the interactive display boxes could make the street a very lively place.'*

I breathe a silent sigh of relief. We now have a point of departure. I pick up on her point and nudge it in the direction of a more open class conversation:

> *'Well, it is interesting that you noted that. Vital street life is a potentially positive outcome of the intervention, but it is dependent on the placement of the structure…'*

A lively discussion ensues. I am conscious of trying to knit Jack's comments about colour back into the conversation, but the timekeeper puts an end to this intention. I make a mental note to get back to it later but I didn't manage to in that particular session.

When I re-read the above dialogue, it still strikes a note of discomfort in me. Despite my best intentions, I failed to integrate Jack's voice into the session. However, it could also be true that Jack was not fully engaged in the review process. Occurrences such as these cause me wonder if my dialogic approach is in fact worth the effort.

Being significantly older than the student cohort, I myself am the product of a more traditional, hierarchical and at times autocratic architectural education system. That pedagogical culture I experienced as a student of architecture could easily have funnelled me towards the role of "entertainer" or a "hegemonic overlord," rather than a type of "liminal servant". In this sense, the role of "liminal servant" that I so earnestly try to inhabit is novel and sometimes feels uncomfortable to me. I wonder if the students ever sense my discomfort and read my efforts as disingenuous. Their written feedback suggests not. One student's feedback, for example, expressed appreciation for times when I "encourage questioning from the student after each presentation" and when I facilitate "other students [to] share their thoughts, because it is helpful for my project." Another student noted: "I really enjoy the conversational and inclusive aspect - through getting peer reviews." So, while input from the conversation catalysts do not always ignite impassioned, class-wide debate, it appears that students appreciate the overall dialogic design review process nonetheless because it promotes an environment where opinions are valued and respected and where trusting relationships between staff and students are fostered. This has broader implications for the operation of the design studio.

The interpretative sketches produced by the students are useful in a number of ways:

1) They ensure that all voices in the cohort are registered at all times, operating as a safeguard against the session becoming dominated solely by the voices of the conversation catalysts.
2) They act as a potent prop for the students, providing them with an incentive to remain engaged throughout the entire session.
3) They expose the students to – and drill them in – the skill of rapid communication using diagrams and sketches.
4) They serve as a reminder of what was discussed during the entire design review. Once the review session reaches an end, the sketches are pinned up on the design studio wall for the whole cohort to reference.
5) When taken collectively, the sketches operate as a kind of mirror that enables the students to gauge and reflect on how effectively they are communicating their designs to the cohort.

6) For the tutor(s), they are a useful tool with which to analyse how/if each student understands the design process and how/if they are engaged in the sessions. In my own research, the student's sketches also served to inform the subsequent writing of my field notes.

(Figure 1 inserted here: Images of the students interpreted sketches attached to submission)

The SenseCam data gathered during the individual dynamic design review session confirms that my pedagogical practice is partly performance. It shows me in action – in captured images – as I hold up models, putting my head into them on occasion so as to get the eye-level view, etc. The data shows how I discuss designs with the other design tutors positioned at the far side of the room. It documents the specific ways in which I use hand gestures, stance and drawing as tools for more effective communication. All of these practices are performative in that they have all been consciously cultivated and choreographed, on my part, for the purposes of achieving an optimal pedagogical outcome.

The SenseCam data, however, also shows moments throughout the session where I was *not* performing, such as when I appear more withdrawn into my own thoughts, sketching in my notebook. While this act of sketching is a tool I often find useful for focusing my thoughts concerning the student proposal at hand, I question how useful it is for establishing collective dialogue. I wonder if, in the future, I might instead concentrate more on directly observing the behaviours and presentations of the students and design intentions for incorporation into future conversations later in the design review.

Overall, the SenseCam data proved extremely helpful for memory recall during the drafting of fieldnotes subsequent to the teaching session. This additional objective viewpoint that the SenseCam provides called my attention to things I would not otherwise have noticed, such as my use of gesture, my unconscious drawing and the nuances of reactions of students such as the one detailed above from Jack.

(Figure 2 inserted here: Images of SenseCam data attached to submission)

As a design tutor, facilitating the dialogic design review requires my full and unwavering attention, obliging me to be a nimble and improvisational actor. In such a dynamic context, it is difficult and even harmful to also be taking notes. I believe that is here that the SenseCam can be an indispensable tool.

The fact that the SenseCam is positioned close to the head of the person who wears it means that the lens (or "vantage point") of the SenseCam is closely aligned to the eye (or vantage point) of the wearer. This alignment of vantage points makes the resulting memory recall, triggered by the review of SenseCam data, all the more potent. The periodic snapshot model used by SenseCam is an efficient method of activating memories in the subsequent fieldnote writing process. However, I acknowledge that video and sound recordings of the studio teaching session under examination here, and the subsequent transcription and analysis of these additional sources might have yielded further nuanced findings. Such additional sources can be incorporated into future research.

Conclusion

In this article, I demonstrate how the dialogic design review format helps strengthen multi-directional networks of learning within the design studio. My pedagogical experiments reveal that soliciting verbal feedback from students within this context requires a certain degree of sensitivity on the part of the pedagogical practitioner. For some pedagogical practitioners, especially those who

are products of an erstwhile, traditional culture of architectural pedagogy, this approach could prove potentially uncomfortable to adopt. However, overcoming this sense of discomfort and pushing beyond the boundaries of the pedagogical orthodoxies in which one first learned architecture appears to pay significant dividends for the pedagogical practitioners of today. The ultimate beneficiaries of such an effort, though, are the students. For their part, they value the dialogic design review process. It validates their opinions, it helps build a trusting relationship between all parties involved and it contributes to the sense of social cohesion within the design studio. Weaving students' observations and comments – in a subtle manner – back into the collective architectural conversations is an art that requires alert and nimble facilitation on the part of the design tutor. Encouraging the entire student cohort to make interpretative sketches of each other's design proposals is a simple and effective way of ensuring that all voices in the design studio are heard. Furthermore, making these sketches visible within the studio space sparks further dialogue and facilitates more cross-pollination of ideas. The SenseCam is a useful and efficient tool for the objective capturing of personal pedagogical practice within the fast-moving learning context that is the dialogic design review process. The data produced by the SenseCam aids tutors to better reflect on their process and practice.

Finally, it should be mentioned that the dialogic design review is not prescriptive. I share it in the hope that other pedagogical practitioners will adapt and improve it, entirely or partially, as a way of enabling collective and creative conversations within their respective design studios.

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